UNITED STATES PATENT AND TRADEMARK OFFICE

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN/PDC
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER
TRAN, NGHI V

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2151	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/916,552	SCHILLINGS ET AL.
	Examiner	Art Unit	
	Nghi V Tran	2151	

-- The MAILING DATE f this communication appears on the cover sheet with the correspondenc address --

Peri d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _05 November 2004_.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-55_ is/are pending in the application.

   4a) Of the above claim(s) _21-36_ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-20 and 37-55_ is/are rejected.
7) ☒ Claim(s) _11, 13, 17, and 19_ is/are objected to.
8) ☒ Claim(s) _1-55_ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____.
   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _07/26/2001_.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   Applicant's election of Group I (claims 1-20 and 37-55) in the reply filed on November 05, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 21-36 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 05, 2004.

Claim Objections

2.   Claims 11 and 17 are objected to because of the following informalities:

Taking claim 11 as an exemplary claim, the phrase "... to generate the new copy of the <u>net work</u> resource," (emphasis added) appears to be a typo error for --to generate the new copy of the <u>network</u> resource--.

Claim 17 is also objected for the same reason set forth in claim 11 above.

Appropriate correction is required.

3.   Claims 13 and 19 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s)

in proper dependent form, or rewrite the claim(s) in independent form.

Taking claim 13 as an exemplary claim, the functional limitation of the claim

renders the claim as being of improper dependent form for failing the further limit the

subject of an independent claim 9.

Claim 19 is also objected for the same reason set forth in claim 13 above.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1, 4-5, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Wang et al., U.S. Patent Number 5,903,673 (hereinafter Wang), in view of Youn et

al, U.S. Patent Application Publication Number 2002/0154698 (hereinafter Youn).

Taking claim 1 as an exemplary claim, Wang discloses a method, comprising:

performing a comparison of a first version of a network resource and a second version

of the network resource, the comparison performed by a encoder, the first version

stored in the encoder, the second version sent to the encoder from a video source; and

when the second version is different from the first version, calculating difference data

between the second version and the first version, sending the difference data to a client,

and storing the second version as the first version (figure 1). Further, Wang discloses a

server includes the encoder and be able to stream video to client computer upon request (figures 12-13). In a communication method, Youn teaches an encoder, a decoder, and a transcoder are part of gateways (figures 5-9 and 12; page 3, paragraph 0044; and page 4, paragraph 0052-0053). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Wang in view of Youn by adding an encoder in the gateway because this feature saves bandwidth consumption. One of ordinary skill in the art at the time of the invention would have been motivated to modify Wang in view of Youn in order to reduce redundancy of image data with in a sequence of frames without an addition bandwidth.

Claim 5 is also rejected for the same reason set forth in claim 1 above.

Taking claim 4 as an exemplary claim, Wang fails to disclose the client is coupled with the gateway through a narrow bandwidth connection. On the other hand, Youn teaches the client (item 524 of figure 5) is coupled with the gateway (item 520 of figure 5) through a narrow bandwidth connection (item 522 of figure 5). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Wang in view of Youn by coupling the client with the gateway via a narrow bandwidth connection because this feature increases the client's flexibility. One of ordinary skill in the art at the time of the invention would have been motivated to modify Wang in view of Youn in order to access information at anywhere.

Claim 8 is also rejected for the same reason set forth in claim 4 above.

6.   Claims 2-3 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable

over both Wang and Youn, and further in view of both Mann et al., U.S. Patent Number

6,330,281 (hereinafter Mann) and Sundqvist et al., U.S. Patent Number 6,549,669

(hereinafter Sundqvist).

Taking claim 2 as an exemplary claim, both Wang and Youn fail to teach the

client stores a copy of the first version of the network resource. However, Youn teaches

end-user receives video signal (page 4, paragraph 0052-0053). In a communication

method, Sundqvist discloses the decoder stores a copy of the first version of the

network resource (figures 7-8). In addition, Mann discloses the decoder is part of client

(figure 4). It would have been obvious to one having ordinary skill in the art at the time

of the invention was made to modify both Wang and Youn in view of both Sundqvist and

Mann by storing a copy of first version of the network resource in the client because this

feature reduces buffer time. One of ordinary skill in the art at the time of the invention

would have been motivated to modify both Wang and Youn in view of both Sundqvist

and Mann in order to reconstruct the difference data from the previously version without

reconstructing the original image data.

Taking claim 3 as an exemplary claim, both Wang and Youn fail to teach the

difference data is merged with the copy of the first version of the network resource to

generate a copy of the second version of the network resource when the client receives

the difference data. In a communication method, Sundqvist discloses the difference

data is merged with the copy of the first version of the network resource to generate a

copy of the second version of the network resource when the decoder receives the

difference data (figure 7-8). In addition, Mann discloses the decoder is part of client

(figure 4). It would have been obvious to one having ordinary skill in the art at the time

of the invention was made to modify both Wang and Youn in view of both Sundqvist and

Mann by merging with the copy of the first version of the network resource to generate a

copy of the second version of the network resource when the decoder receives the

difference data because this feature reduces buffer time. One of ordinary skill in the art

at the time of the invention would have been motivated to modify both Wang and Youn

in view of both Sundqvist and Mann in order to reconstruct the difference data from the

previously version without reconstructing the original image data.

Claims 6-7 are also rejected for the same reason set forth in claims 2-3 above.

7.   Claims 9-11, 13, 15-17, and 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Mann et al., U.S. Patent Number 6,330,281 (hereinafter Mann), in

view of Wang et al., U.S. Patent Number 5,903,673 (hereinafter Wang).

Taking claim 9 as an exemplary claim, Mann teaches a method, comprising:

receiving a request for a network resource from a client using a narrow bandwidth

connection, the request including an identifier for the network resource (figure 4); getting

a new copy of the network resource from a content server using the identifier, the

content server connected to a network; and determining if a current copy of the network

resource exists using the identifier (column 9, line 45 - column 10, line 12); and when

the current copy of the network resource exists, calculating difference data between the

current copy of the network resource and the new copy of the network resource, and

sending the difference data to the client (column 10, lines 13-39). In a communication method, Wang discloses when the current copy of the network resource does not exist, sending the new copy of the network resource to the client (figure 6); and storing the new copy of the network resource as the current copy of the network resource (column 13, lines 20-59). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Mann in view of Wang by sending the new copy of the network resource to client and storing the new copy of the network resource as the current copy of the network resource because this feature saves bandwidth. One of ordinary skill in the art at the time of the invention would have been motivated to modify Mann in view of Wang in order to reduce redundancy of image data without an addition bandwidth.

Claims 13, 15, and 19 are also rejected for the same reason set forth in claim 9 above.

Taking claim 10 as an exemplary claim, Mann further discloses the current copy of the network resource is a mirror of a copy of the network resource stored in the client when the current copy of the network resource exists (figure 4 and column 10, lines 12-39).

Taking claim 11 as an exemplary claim, Mann further discloses the difference data is merged with the copy of the network resource stored in the client to generate the new copy of the network resource (item 28 of figure 4; and column 10, lines 43-51).

Claims 16-17 are also rejected for the same reason set forth in claims 10-11 above.

8.   Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over both Mann and Wang as applied in claims 9 and 15 above, and further in view of

Sundqvist et al., U.S. Patent Number 6,549,669 (hereinafter Sundqvist).

Taking claim 12 as an exemplary claim, both Mann and Wang fail to teach the

new copy of the network resource is stored in the client. In a communication method,

Sundqvist discloses the new copy of the network resource is stored in the client (figures

7-8). It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to modify both Mann and Wang, and further in view of Sundqvist by

storing the new copy of the network resource in the client because this feature saves

bandwidth. One of ordinary skill in the art at the time of the invention would have been

motivated to modify both Mann and Wang, and further in view of Sundqvist in order to

reduce redundancy of image data without an addition bandwidth.

Claim 18 is also rejected for the same reason set forth in claim 12 above.

9.   Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over both Mann and Wang as applied in claims 9 and 15 above, and further in view of

Leppinen, U.S. Patent Number 6,735,186.

Taking claim 14 as an exemplary claim, both Mann and Wang fail to teach the

difference data is calculated using Lempel-Ziff (LZW) compression algorithm. On the

other hang, Leppinen discloses the difference data is calculated using Lempel-Ziff

(LZW) compression algorithm (column 3, lines 30-65). It would have been obvious to

one having ordinary skill in the art at the time of the invention was made to modify both

Mann and Wang in view of Leppinen by using Lempel-Ziff (LZW) compression algorithm

because this feature is a lossless compression technique. One of ordinary skill in the

art at the time of the invention would have been motivated to modify both Mann and

Wang, and further in view of Leppinen in order to reduce image data that enables to

save the bandwidth.

Claim 20 is also rejected for the same reason set forth in claim 14 above.

10.   Claims 44-46, 48-52, and 54-55 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Mann et al., U.S. Patent Number 6,330,281 (hereinafter Mann) in

view of Wang et al., U.S. Patent Number 5,903,673 (hereinafter Wang).

Taking claim 44 as an exemplary claim, Mann teaches a method, comprising:

receiving a first data from a client through a narrow bandwidth connection and sending

a copy of the first data when there is an indication that an incremental change for the

first data is to be expected from the client (figure 4). In a communication method, Wang

discloses storing a copy of the first data when there is a change for the first data (figure

1). It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to modify Mann in view of Wang by storing a copy of the first data

when there is a change for the first data because this feature saves bandwidth. One of

ordinary skill in the art at the time of the invention would have been motivated to modify

Mann in view of Wang in order to reduce redundancy of image data without an addition

bandwidth.

Claim 50 is also rejected for the same reason set forth in claim 44 above.

Taking claim 45 as an exemplary claim, Mann fails to teach receiving and

generating a second data using the stored copy of the first data and incremental change

for the first data. In a communication method, Wang discloses receiving the

incremental change for the first data; and generating a second data using the stored

copy of the first data and the incremental change for the first data (figure 1). It would

have been obvious to one having ordinary skill in the art at the time of the invention was

made to modify Mann in view of Wang by receiving and generating a second data using

the stored copy of the first data and the incremental change for the first data because

this feature reduces the buffer time. One of ordinary skill in the art at the time of the

invention would have been motivated to modify Mann in view of Wang in order to

reconstruct the difference data from the previously version without reconstructing the

original image data.

Taking claim 46 as an exemplary claim, Mann fails to teach storing the second

data as the first data. In a communication method, Wang discloses storing the second

data as the first data (figure 1). It would have been obvious to one having ordinary skill

in the art at the time of the invention was made to modify Mann in view of Wang by

storing the second data as the first data this feature reduces the buffer time. One of

ordinary skill in the art at the time of the invention would have been motivated to modify

Mann in view of Wang in order to reconstruct the difference data from the previously

version without reconstructing the original image data.

Taking claim 48 as an exemplary claim, Mann further teaches the first data and

the second data are audio data (item 24 of figure 4 and item 12 of figure 1 i.e. video

source including both audio and video data).

Taking claim 49 as an exemplary claim, Mann further teaches the first data and

the second data are image data (item 24 of figure 4 and item 12 of figure 1).

Claims 51-52 and 54-55 are also rejected for the same reason set forth in claims

45-46 and 48-49 above.

11.   Claims 47 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable

over both Mann and Wang as applied in claims 44 and 50 above, and further in view of

Sundqvist et al., U.S. Patent Number 6,549,669 (hereinafter Sundqvist).

Taking claim 47 as an exemplary claim, both Mann and Wang fail to teach

receiving the incremental change for the first data comprises receiving a program

module formed to generate the incremental change. In a communication method,

Sundqvist discloses receiving the incremental change for the first data comprises

receiving a program module formed to generate the incremental change (figures 7-8). It

would have been obvious to one having ordinary skill in the art at the time of the

invention was made to modify both Mann and Wang in view of Sundqvist by receiving a

program module formed to generate the incremental change because this feature

reduces buffer time. One of ordinary skill in the art at the time of the invention would

have been motivated to modify both Mann and Wang, and further in view of Sundqvist

in order to reconstruct the difference data from the previously version without reconstructing the original image data.

Claim 53 is also rejected for the same reason set forth in claim 47 above.

12.   Claims 37, 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al., U.S. Patent Number 5,903,673 (hereinafter Wang), in view of Youn et al, U.S. Patent Application Publication Number 2002/0154698 (hereinafter Youn).

With respect to claim 37, Wang fails to teach sending the difference data to a receiving computer using a narrow bandwidth connection. However, Wang clearly teaches a method, comprising: performing a comparison of a first data and a second data; and when the second data is different from the first data, calculating difference data between the second data and the first data, and sending the second difference data (figure 1 and abstract). In a communication method, Youn discloses decoder and encoder are part of transcoder that sends the data to a receiving computer using a narrow bandwidth connection (figures 5 and 8). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Wang in view of Youn by sending the difference data between the second data and the first data via a narrow bandwidth connection because this feature saves bandwidth. One of ordinary skill in the art at the time of the invention would have been motivated to modify Wang in view of Youn in order to reduce redundancy of image data with in a sequence of frames without an addition bandwidth.

With respect to claim 40, Wang further teaches calculating the difference data comprises forming a program module to generate the difference data (figure 1 and abstract).

With respect to claim 41, Wang further teaches the program module updates the first data to make the first data similar to the second data (column 6, lines 35-67).

With respect to claim 42, Wang further teaches the first data and second data are image data (item 1204 of figure 12).

With respect to claim 43, Wang further teaches the first data and second data are audio data (column 19, lines 9-44 i.e. video stream including video and audio data).

13.   Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over both Wang and Youn as applied in claim 37 above, and further in view of both Mann et al., U.S. Patent Number 6,330,281 (hereinafter Mann) and Sundqvist et al., U.S. Patent Number 6,549,669 (hereinafter Sundqvist).

With respect to claim 38, both Wang and Youn fail to teach the receiving computer stores a copy of the first data. However, Youn teaches the end user receives data. In a communication method, Mann discloses the receiving client (i.e. may be computer) receives a copy of the first data (figure 4). In addition, Sundqvist discloses decoder receives and stores a copy of the first data (figures 7-8, i.e. stores a copy may be in a cache). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify both Wang and Youn in view of both Mann and Sundqvist by receiving and storing a copy of the first data because this feature

improves a speed. One of ordinary skill in the art at the time of the invention would

have been motivated to modify both Wang and Youn in view of both Mann and

Sundqvist in order to avoid bottleneck.

With respect to claim 39, both Wang and Youn fail to teach the difference data is

merged with the copy of the first data to generate a copy of the second data when the

receiving computer receives the difference data. In a communication method, Mann

discloses the receiving client (i.e. may be computer) receives a copy of the first data

(figure 4). In addition, Sundqvist discloses the difference data is merged with the copy

of the first data to generate a copy of the second data (figures 7-8). It would have been

obvious to one having ordinary skill in the art at the time of the invention was made to

modify both Wang and Youn in view of both Mann and Sundqvist by merging the

difference data with the copy of the first data to generate a copy of the second data

because this feature reduces buffer time. One of ordinary skill in the art at the time of

the invention would have been motivated to modify both Wang and Youn in view of both

Mann and Sundqvist in order to reconstruct the difference data from the previously

version without reconstructing the original image data.

Conclusion

14.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

a.   "Method for utilizing local resources in a communication system," by

Linden et al., U.S. Patent Number 6,549,773.

    b.   "<u>Interframe video encoding and decoding system</u>," by Lee et al., U.S. Patent Number 5,576,767.

    c.   "<u>Method and apparatus for improving motion compensation in digital video coding</u>," by Horne, U.S. Patent Number 5,473,379.

    d.   "<u>Method and apparatus for digital data compression,</u>" by Persiantsev et al., U.S. Patent Number 6,347,155.

    e.   "<u>Method and apparatus for signal degradation measurement,</u>" by Barrett, U.S. Patent Number 6,714,896.

    f.   "<u>Method and apparatus for real time communication over switched networks</u>," by Schuster et al., U.S. Patent Number 6,487,603.

    g.   "<u>Image coding system converting apparatus, image coding system converting method, and recording medium</u>," by Komiya et al., U.S. Patent Number 6,628,839.

15.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Nghi V Tran
Examiner
Art Unit 2151

NT

ZARNI MAUNG
SUPERVISORY PATENT EXAMINER